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|-------------------------------|------------------------|---------------------|--|
| <b>Notice of Allowability</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                               | 10/643,545             | KOBAYASHI ET AL.    |  |
|                               | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                               | John H. Le             | 2863                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's amendment filed 02/22/2005.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 22 February 2005 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

***Response to Amendment***

1. Applicant's amendment filed 02/22/2005 has been entered and carefully considered.

Claim 11 has been amended.

The specification has been amended.

The abstract has been amended.

New Drawings of Fig.18 has been added.

***Reasons for Allowance***

2. Claims 1-20 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter:

Please see the previous office action and applicant's argument filed on 02/22/2005.

Regarding claim 1, none of the prior art of record teaches or suggests the combination of an apparatus for analyzing mass spectrometric data, wherein the apparatus comprising: a first input means for entering first data of an ion to be analyzed measured by mass spectrometry; a second input means for entering second data of a dissociated ion of the ion measured by mass spectrometry; a first data storing means for storing third data of mass spectrometry of a plurality of candidates for the structure of ion; a calculation means for producing fourth data of mass spectrometry of dissociated ions to be used in analyzing the plurality of candidates; and an evaluation means for evaluating the plurality of candidates by making comparisons between the first and third data and between the second and fourth data, so that the structure of ion can be identified. It is these limitations as they are claimed in the combination with other

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limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 14, none of the prior art of record teaches or suggests the combination of an apparatus for analyzing mass spectrometric data, wherein the apparatus comprising: an evaluation means for evaluating the candidates, wherein the evaluation means comprises: a first selection means for selecting a first candidate for the structure of ion by making a comparison between the first data and the third data stored in the data storing means; and a second selection means which provides a calculation value of mass spectrometry for a Mth candidate, where M is less than or equal to N, and makes a comparison between a measured value of mass spectrometry for a Mth dissociated ion entered through the second input means and the calculation value, repeating from M equal to 1 to M equal to L, where L is equal to or greater than 2 and less than or equal to N, so that a (M+1)th candidate for the structure of ion can be selected. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 15, none of the prior art of record teaches or suggests the combination of an apparatus for analyzing mass spectrometric data, wherein the apparatus comprising: an input means for entering one of first data measured by mass spectrometry for an ion to be analyzed and second data measured by mass spectrometry for a dissociated ion of the ion; first public data of mass spectrometry for candidates for the structure of ion accessible by internet; and second public data of

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mass spectrometry for the structure of dissociated ion for each candidate accessible by internet, wherein the apparatus evaluates the candidates by making one of comparisons between the first data and first public data and between the second data and second public data, so that the structure of ion can be identified. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 16, none of the prior art of record teaches or suggests the combination of a method for analyzing mass spectrometric data, wherein the method comprising the steps of: measuring first data of mass spectrometry for an ion to be analyzed; measuring second data of mass spectrometry for a dissociated ion of the ion; storing third data of mass spectrometry for a plurality of candidates for the structure of ion; calculating fourth data of mass spectrometry for dissociated ions to be used in analyzing the plurality of candidates for the structure of ion; and estimating the structure of ion by making comparisons between the first and third data, and between the second and fourth data. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 18, none of the prior art of record teaches or suggests the combination of a system for analyzing compound structure, wherein the system comprising: a means for conducting mass spectrometry for an ion to be analyzed and a dissociated ion of the ion; and an apparatus for analyzing mass spectrometric data,

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wherein the apparatus comprises: a first input means for entering first data measured by mass spectrometry for an ion to be analyzed; a second input means for entering second data measured by mass spectrometry for a dissociated ion of the ion; a data storing means for storing third data of mass spectrometry for a plurality of candidates for the structure of ion; a calculation means for producing fourth data of mass spectrometry for dissociated ions to be used in analyzing the plurality of candidates for the structure of ion; and an evaluation means for evaluating the candidates by making comparisons between the first and third data, and between the second and fourth data, so that the structure of ion can be identified. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 20, none of the prior art of record teaches or suggests the combination of a computer program for a computer used for a system for analyzing compound structure, wherein the computer program executes the steps of: measuring first data of mass spectrometry for an ion to be analyzed; measuring second data of mass spectrometry for a dissociated ion of the ion; storing third data of mass spectrometry for a plurality of candidates for the structure of ion; calculating fourth data of mass spectrometry for dissociated ions to be used in analyzing the plurality of candidates; and estimating the structure of the ion by making comparisons between the first and third data, and between the second and fourth data. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been

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found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Contact Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H Le whose telephone number is 571-272-2275. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John H. Le  
Patent Examiner-Group 2863  
April 28, 2005

**BRYAN BUI**  
**PRIMARY EXAMINER**

